

PREVENT STORM WATER CONTAMINATION

Best Management Practices for

Chemical Manufacturers

Shipping and receiving

- ♦ Close storm drains during loading/unloading activities in surrounding area.
- ♦ Inspect all containers prior to unloading/loading of any raw or spent materials.
- ♦ Use drip pans when loading/unloading liquid product.
- ♦ Drain hoses back into truck, railcar, etc. after loading/unloading materials.
- ♦ Install high level alarm on tanks to prevent overfilling.
- ♦ Ensure that berms and dikes are built around the unloading/loading areas, if applicable.
- ♦ If outside or in covered areas, minimize run-on of storm water into the unloading/loading areas by grading the areas to insure that storm water runs off.
- ♦ Initiate an inventory control for all raw and spent materials.
- ♦ Confine loading/unloading activities to a designated area.
- ♦ Consider performing loading/unloading activities indoors or in a covered area.
- ♦ Avoid loading/unloading materials in the rain.
- ♦ Inspect the unloading/loading areas to detect problems before they occur.
- ♦ Dead-end sump where spilled materials could be directed.
- ♦ Use dry clean-up methods instead of washing the areas down.
- ♦ Train employees on proper loading/unloading techniques and spill prevention and response.

Outdoor material storage

- ♦ Confine storage of materials, parts and equipment to designated areas.
- ♦ Consider secondary containment using curbing, berming or diking all liquid storage areas.
- ♦ Train employees in spill prevention and response techniques.
- ♦ Train employees on proper waste control and disposal.
- ♦ Consider covering tanks.
- ♦ Ensure that all containers are closed (e.g. valves shut, lids sealed, caps closed).

- ♦ If outside or in covered areas, minimize run-on of storm water by grading the land to divert flow away from containers.
- ♦ Direct runoff to on-site retention pond.
- ♦ Inventory all raw and spent materials.
- ♦ Store wastes in covered, leak proof containers (e.g. dumpsters, drums).
- ♦ Consider shipping all wastes to offsite landfills or treatment facilities.
- ♦ Ensure hazardous waste disposal practices are performed in accordance with Federal, State and local requirements.

Material handling (storage and containment)

- ♦ Provide sufficient containment for outdoor storage areas for the larger of either 10 percent of the volume of all containers or 110 percent of the largest tank.
- ♦ Maintain good integrity of all storage tanks.
- ♦ Inspect storage tanks to detect potential leaks and perform preventive maintenance.
- ♦ Inspect piping systems (pipes, pumps, flanges, couplings, hoses, valves) for failures or leaks.
- ♦ Train employees on proper filling and transfer procedures.
- ♦ Store containerized materials (fuel, paints, solvents, etc.) in a protected, secure location and away from drains.
- ♦ Store reactive, ignitable or flammable liquids in compliance with the local fire code.
- ♦ Keep records to identify quantity, receipt date, service life, users and disposal routes.
- ♦ Secure and carefully monitor hazardous materials to prevent theft, vandalism and misuse of materials.
- ♦ Educate personnel for proper storage, use, cleanup and disposal of materials.
- ♦ Use temporary containment where required by portable drip pans.
- ♦ Use spill troughs for drums with taps.

Best Management Practices for Chemical Manufacturers

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Material handling *designated material/chemical mixing areas*

- ♦ Mix materials/chemicals in designated areas away from drains, ditches and surface waters. Locate designated areas preferably indoors or under a shed.

Solid waste *(paper, wood pallets, scrap metals, refuse, etc.)*

- ♦ Inspect the general area around the solid waste (e.g. look for signs of leaching).
- ♦ Store waste so that it is physically contained (dumpsters, drums, bags).
- ♦ Store waste in an enclosed/covered area.
- ♦ If outside or in a covered area, minimize exposure to storm water by grading the area to ensure that storm water runs "off" and not "on".
- ♦ Ensure that hazardous waste disposal practices are performed in accordance with Federal, State and local requirements.
- ♦ Route trash compactor leakage to treatment system or sanitary sewer.

Improper connections to the storm drain

- ♦ Perform smoke or dye testing to determine if interconnections exist between the sanitary sewer and storm drain systems.
- ♦ Plug all floor drains leading to storm drains.
- ♦ Update facility schematics to accurately reflect all plumbing connections.
- ♦ Offer employee incentives so that employees will develop cost-effective, worker-efficient BMPs.
- ♦ Request outside firm to conduct a storm water inspection/audit.
- ♦ Inspect material transfer lines/connections for leaks or signs of wear and repair or replace as necessary.

Solid storage *(silos, holding bins, fiber drums, etc.)*

- ♦ Consider vacuum emission control systems for airborne dust and particulate matter.

Waste management wastewater

- ♦ Perform treatment processes inhouse, if possible.
- ♦ Inspect the outside pipe connections (couplings, valve seals and gaskets, flanges, etc.) of the treatment system for leaks, corrosion and poor maintenance upkeep.

If spills occur:

- ♦ **Stop the source of the spill immediately.**
- ♦ **Contain the liquid until cleanup is complete.**
- ♦ **Deploy oil containment booms if the spill may reach the water.**
- ♦ **Cover the spill with absorbent material.**
- ♦ **Keep the area well ventilated.**
- ♦ **Dispose of clean-up materials properly.**
- ♦ **Do not use emulsifier or dispersant.**



City of Phoenix

STREET TRANSPORTATION DEPARTMENT
STORM WATER MANAGEMENT SECTION

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